



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/599,774

10/09/2006

Kazuya Okada

TNKP102US

4276

23623 7590 11/23/2009
TUROCY & WATSON, LLP
127 Public Square
57th Floor, Key Tower
CLEVELAND, OH 44114

EXAMINER

CHRISS, JENNIFER A

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

11/23/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket1@thepatentattorneys.com
hholmes@thepatentattorneys.com
setoori@thepatentattorneys.com

Office Action Summary	Application No. 10/599,774	Applicant(s) OKADA ET AL.	
	Examiner JENNIFER A. CHRISS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1,3-5 and 8-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed July 2, 2009, have been entered and have been carefully considered. Claim 1, 8 and 12 - 15 are amended, claim 2 is cancelled, claims 16 – 20 are added, claims 6 - 7 remain withdrawn and claims 1 and 3 - 20 are pending. The invention as currently claimed is not found to be patentable for reasons herein below.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3 – 5, 8 - 11 and 13 - 15 remain rejected and new claims 16 – 20 are now rejected under 35 U.S.C. 102(b) as being anticipated by Takase et al. (US 2002/0090876).

Takase et al. is directed to a battery separator [0071].

Takase et al. teach a nonwoven fabric battery separator having a maximum pore size of 1.9 times or less than a mean flow pore size [0071] with the maximum pore size

Art Unit: 1794

being 30 microns or less [0070]. The nonwoven fabric can be made of various materials including polymethylenpentene-based resin (4-methyl-1-pentene) [0016]. Takase et al. teach that the void rate of the nonwoven fabric is preferably 45 to 65% [0072] which is completely encompassed by Applicant's claimed range. Takase et al. teach that the nonwoven battery separator may be prepared by laminating a plurality of fiber webs, so as long as this satisfies that the laminate is uniform with respect to the average fiber diameter [0012]. Takase et al. teach that the fiber web may be made by melt-blowing [0086]. Takase et al. teach that the multi-layered structure can comprise at least two meltblown layers where one of the additional layers can be equated to Applicant's "strength retention material". Takase et al. teach that the nonwoven fabric is used a battery separator which is a type of filter.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 12 remains rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takase et al. (US 2002/0090876). The details of the rejection can be found in the Office Action dated April 2, 2009. The rejection is maintained.

Double Patenting

5. Claims 1, 3 - 5 and 8 – 20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 - 2 of U.S. Patent No. 7,183,020 to Sudou et al. in view of Takase et al. (US 2002/0090876). U.S. Patent No. 7,183,020 claims a battery separator made of a meltblown nonwoven fabric comprising a 4-methyl-1-pentene polymer where the separator has a porosity of 30 to 60%. U.S. Patent No. 7,183,020 fail to teach a maximum pore size of 0.5 to 5.0 microns, a ratio of 1.30 or lower and a strength retention material laminated thereon. Takase et al. is directed to a battery separator [0071]. Takase et al. teach a nonwoven fabric battery separator having a maximum pore size of 1.9 times or less than a mean flow pore size [0071] with the maximum pore size being 30 microns or less [0070]. The nonwoven fabric can be made of various materials including polymethylenepentene-based resin (4-methyl-1-pentene) [0016]. Takase et al. teach that the void rate of the nonwoven fabric is preferably 45 to 65% [0072] which is completely encompassed by Applicant's claimed range. Takase et al. teach that the nonwoven battery separator may be prepared by laminating a plurality of fiber webs, so as long as this satisfies that the laminate is uniform with respect to the average fiber diameter [0012]. The Examiner submits that any additional material laminated to the battery separator will act as "a strength retention material". Takase et al. teach that the nonwoven fabric is used a battery separator which is a type of filter. It would have been obvious to one of ordinary skill in the art at the time the invention was made to create a maximum pore size of 0.5 to 5.0 microns with a ratio of 1.30 or lower motivated by the desire to create a battery

Art Unit: 1794

separator having good uniformity which avoids short circuiting during use [0070].

Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to laminate an additional material to the nonwoven in order to further strengthen the battery separator.

Response to Arguments

6. Applicant's arguments filed July 2, 2009 have been fully considered but they are not persuasive.

7. Applicant argues that Takase fails to teach each and every feature of claim 1 because Takase only discloses upper limits of the ratio of maximum pore size/mean pore size and the maximum pore size and does not teach the lower limits of the ratio of maximum pore size/mean pore size and maximum pore size. As noted in paragraphs [0070 - 0071] of Takase, a maximum pore size is preferably 40 microns *or less* and most preferably 30 microns *or less*. Also, the maximum pore size is preferably 2 times *or less* a mean pore size and more preferably a maximum pore size of 1.9 times *or less*. Takase also notes that ideally the maximum pore size is 1 times the mean flow pore size meaning that all the pores have the same size. The teachings in these paragraphs of Takase completely encompass Applicant's claimed ranges. For instance, Applicant claims a maximum pore size of 0.5 microns to 5.0 microns. Takase desires a maximum pore size which is preferably 40 microns *or less* but tends towards the lower ranges, as does Applicant, indicating that a maximum pore size of 30 microns *or less* is most preferred. Applicant claims a maximum pore size/average pore size ratio is 1.30 *or*

Art Unit: 1794

lower. Takase also desires a low ratio indicating that 1.9 times or less is more preferably and ideally a ratio of 1. The Examiner submits that the art discloses the claimed ranges with sufficient specificity and also desires to achieve the same effects with those ranges as Applicant.

8. Applicant indicates that Takase teaches a fiber diameter of 12 to 35 microns and one skilled in the art would readily understand that a nonwoven fabric containing such an amount of fiber having such a large diameter would have a much larger maximum pore size than the claimed 0.5 microns to 5 microns. In the same paragraph of Takase, Takase notes that the fiber is not particularly limited and only provides those diameters as examples. Additionally, Applicant does not provide any evidence to support their submission. It should be noted that it has been held that “disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments”. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). Although, the Examples that Applicant points to show higher maximum pore sizes, it does not negate the broader disclosure of Takase as discussed above.

9. Applicant argues that Takase fails to inherently disclose the claimed ratio because the least maximum pore size is 20.5 microns. Please see the Examiner's comments above regarding the maximum pore size.

10. Applicant argues that Takase is not an enabling cited art document since Takase does not contain an enabling disclosure to make a nonwoven with the porosity, maximum pore size and ratio as claimed. Per the same section of the MPEP, it has been held that “when the reference relied on expressly anticipates or makes obvious all

of the elements of the claimed invention, the reference *is presumed to be operable*.

Once such a reference is found, the burden is on applicant to provide facts rebutting the presumption of operability. In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980).

Applicant has not provided any facts to support their assertion of inoperability.

11. Regarding claim 12, please see the Examiner's comments above regarding how Takase does teach all the features of claim 1.

12. For the reasons above, the Examiner maintains the Double Patenting rejection.

13. Applicant argues that new claims 16 – 20 are not taught by Takase as Takase teaches a nonwoven fabric having a unilayered structure. In paragraph [0012] of Takase, the concept of a substantially unilayered structure is further discussed and indicates that the nonwoven fabric for the battery separator may be prepared by *laminating a plurality of fiber webs*, so long as this satisfies the requirement that the laminate is uniform with respect to the average fiber diameter. Therefore, Takase also anticipates multi-layered structures.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 1794

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. CHRISS whose telephone number is (571)272-7783. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 6 p.m., first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Chriss/
Primary Examiner, Art Unit 1794

/J. A. C./
Primary Examiner, Art Unit 1794